



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/595,875	04/06/2007	Volker Rasche	DE030394US1	8341
24737	7590	12/28/2010	EXAMINER	
PHILIPS INTELLECTUAL PROPERTY & STANDARDS			AKHAVANNIK, HADI	
P.O. BOX 3001			ART UNIT	PAPER NUMBER
BRIARCLIFF MANOR, NY 10510			2624	
MAIL DATE		DELIVERY MODE		
12/28/2010		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/595,875	Applicant(s) RASCHE ET AL.
	Examiner HADI AKHAVANNIK	Art Unit 2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 11 November 2010.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-3,5-9 and 11-13 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-3,5-9 and 11-13 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-878)
- 3) Information Disclosure Statement(s) (PTO/SB/08)
 Paper No./Mail Date 8/16/10
- 4) Interview Summary (PTO-413)
 Paper No./Mail Date _____
- 5) Notice of Informal Patent Application
- 6) Other: _____

Response to Arguments

Applicant's arguments filed 11/11/10 are persuasive. Please see the rejection below. This rejection is made final.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 and 5-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kamada et al. (5444791, referred to as "Kamada" herein) in view of Toriu et al. (6184892, referred to as "Toriu" herein).

Regarding claim 1, Kamada discloses a device for the three-dimensional reconstruction of a moving object in a body volume, comprising a memory storing a series of two-dimensional projection photographs (A.sub.1 A.sub.2, A.sub.n, A.sub.N) of the body volume from different directions, and as a data processing unit which is coupled to the memory executing the following steps (col. 8 line 65 to col. 9 line 10):

- a) segmenting a projection image (Pr.sub.n(Q)) of at least one feature point (Q) of the object or its surroundings in each of the projection photographs on which subsequently all projection photographs are to be aligned (col. 23 lines 55-65);
- b) Specifying randomly a spatial reference position (Q.sub.0) for the feature point (Q) (col. 23 lines 55-65 disclose finding feature points position);

c) Calculating transformations (.SIGMA..sub.n, .sigma..sub.n) of the object space and of the projection photographs wherein the projection of the transformed reference position coincides with the respective of the transformed reference position coincides with the respective transformed image of the feature point; and (col. 23 line 65 to col. 24 line 30);

d) reconstructing the object three-dimensionally from stored two-dimensional projection photographs using calculated transformations (.SIGMA..sub.n, .sigma..sub.n) (figure 12 and col. 19 lines 16-40 also see figure 11).

Kamada does not disclose the feature points are selected randomly.

Toriu discloses this feature in col. 28 lines 40-66.

It would have been obvious at the time of the invention to one of ordinary skill in the art to include in Kamada the random feature point selection as taught by Toriu. The reason is to make the system more robust by allowing it to choose any feature position as its starting point.

Regarding claims 2-3, see figure 12 and col. 19 lines 15-40 and figure 10 of Kamada. Also see the rejection of claim 1.

Regarding claim 5, col. 19 lines 15-40 of Kamada disclose rotation.

Regarding claim 6, see figure 10 item 24 of Kamada which discloses an input unit.

Regarding claim 7, see the rejection of claim 6 which shows an image input.

Regarding, claim 8, see figure 58 of Kamada which shows cyclical self movement around an axis.

Regarding claim 9, see the rejection of claim 1.

Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kamada et al. (5444791, referred to as "Kamada" herein) in view of Toriu et al. (6184892, referred to as "Toriu" herein) and in further view of Wedeen (4901019).

Regarding claim 11, Kamada and Toriu do not disclose heartbeat phases.

Wedeen discloses this feature in col. 4 lines 49-65.

It would have been obvious at the time of the invention to one of ordinary skill in the art to include in Kamada and Toriu the heartbeat pulse recognition as taught by Wedeen. The reason for the combination is to allow the system to take into account heartbeat pulses to improve image quality.

Regarding claim 12, see col. 5 lines 10-20 of Wedeen which discloses NMR.

Regarding claim 13, see the rejection of claim 11.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HADI AKHAVANNIK whose telephone number is (571)272-8622. The examiner can normally be reached on 10:30-7:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on 571-272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Hadi Akhavannik/
Examiner, Art Unit 2624

Application/Control Number: 10/595,875

Art Unit: 2624

Page 6